DUPONT Burnside Plant SafetyZone

Safety Zone - Burnside Transfer Facility Security Plan

Safety Zone Daily Checklist

	Yes	No
1. Gates (auto & manual) locked, fences intact?	Yp	
2. Perimeter patrol completed, fences intact?	Yp	
3. Lighting adequate?	Yp	
4. Camera surveillance?	Yp	
5. All cameras working properly?		Yp
6. Intruder Detection System operational?	Yp	
7. Any unauthorized vehicles observed?		Yp
8. Were these vehicles reported to site supervision?	N/A	
9. Any unusual sightings or events during patrols?	GAS Leaking	North above Hiptop straight up

PLEASE REPORT ANY MALFUNCTIONS OF SECURITY EQUIPMENT TO DUPONT SUPERVISION.

Date: 5/24/2012

Time: 21:30

Observer: (b) (7)(C), (b) (6) [redacted]

NOTES: (b) (7)(C), (b) (6) [redacted] OR (b) (7)(C), (b) (6) [redacted]

(b) (7)(C), (b) (6) [redacted]

Security Breach – Call 911 – CONFRONT TRESPASSERS WITH CAUTION. CONTACT FACILITY SECURITY OFFICER (T. J)

NOTE: ANY SITE EMPLOYEE INVOLVED IN TAMPERING WITH SECURITY DEVICES WILL BE SUBJECT TO DISCIPLINARY ACTION. (I.E. SUSPENSION AND OR TERMINATION)!!!!

(b) (7)(C), (b) (6) [redacted]

90698431

DuPont Burnside Plant Work Permit

0460

In case of EMERGENCY, RALLY SPOTS are 1. DuPont Shop 2. Contractor Shop

Issued to:	(b) (7)(C), (b) [redacted]			Supervisor:	(b) (7)(C), (b) (6) [redacted]		
Permit valid from:	Date: 05-23-12	Time: 0700		To Date: 05-23-12		Time: 1900	

Location: HIP & CIP area

Description of work: Install suction hose and BOX on gas bars

TYPE OF WORK:

- [✓] General Work...(Ref. block "A")
- [ ] Flame or Spark Producing Work.. (Ref " B ")
- [ ] Electrical Work...(Ref. " C ")
- [ ] Railroad Work (Ref. " D ")
- [ ] Equipment Preparation (Ref. " F. ")
- [ ] Drilling/Grinding/Chipping...
- [ ] Asbestos/NARF...

ADDITIONAL PERMITS REQUIRED:

[ ] Confined Space Entry Permit	[ ] Manlift Exit	[ ] Crane Basket	[ ] Wall Penetration	[ ] Other
[ ] Line Break Permit (Ref. "E")	[ ] Hydro Blasting...	[ ] Grating Removal	[ ] Excavation	

* Gas Tests	$\%O_2$	%EXPLOSIBILITY(LEL)	TOXICITY				TESTED BY:
			CO	H_2	SO_2	H_2S	
Monitor Used:							
In Area:							
In Equipment:							
Specify Order:							

SPECIAL HAZARDS TO PROTECT AGAINST: JHA REQUIRED

[ ] Corrosive	[ ] Radiation	[ ] Noise	[ ] Heat Stress	[ ] Hot Water/Steam	[ ] Other
[ ] Flammability	[ ] Thermal	[ ] Inert Atmosphere	[ ] Falls	[ ] Toxicity	[ ] High Voltage

MINIMUM SAFETY PRECAUTIONS: JHA REQUIRED

[ ] Rubber Gloves	[✓] Work Gloves	[✓] Barricade area, (Yellow) 'RED'	[ ] Critical Lift Plan
[ ] Rubber Boots	[✓] Safety Harness	[ ] Hard Barricade	[ ] Spark Proof Tools
[ ] Acid Hood	[ ] Metatarsal Guards	[ ] Nomex – Coveralls/Hood/Gloves	[✓] Other manlift
[ ] Chemical Goggles/Spoggles	[ ] Heat Gloves and Sleeves	[ ] Warning signs	[✓] Respirator: Circle type below.
[ ] Face Shield	[ ] Water hose available	[ ] PSM Trained	Chem fullface
[ ] Totally Encapsulated Suit	[ ] Keep area wet	[ ] HAZWOPER Trained	
[ ] Standard Acid Suit	[ ] Kevlar Gloves	[ ] Tyvek	[ ] 3M-8511 Particulate Respirator
[ ] Rain Suit	[✓] Hearing Protection	[ ] Saranex Suit	[ ] Breathing Air
[ ] Pink Acid Suit	[ ] Radio Issued ? No.	[ ] Pull fuses	[ ] Breathing Air w/escape bottle

REFERENCE BLOCKS:

Area Prep. Block "A"	Fire Safety Block "B"	Electrical Safety Block "C"	Electrical Safety contd.	First Break Block "E"	Equip. Prep. Block "F"
[✓] Rope off area	[ ] Fire extinguisher	[ ] Lock, Tag, Try & Test	[ ] Proper grounding	[ ] Full Acid Suit	[ ] Stop transfers
[ ] Post work signs	[ ] Water hose running	[ ] Standby required 2300vac	[ ] GFCI	[ ] Lock, Tag, Try	[ ] Disconnect
[ ] Erect barricade	[ ] Keep area wet	[ ] Close proximity work	Railroad Permit Block "D"	[ ] Pink Acid Suit	[ ] Blank
[ ] Block roadway	[ ] Fire blanket req'd	[ ] > 50 volts	[ ] Derail "A" locked?	[ ] Level A	[ ] Flush, non fuming
[ ] Lock Tag & Try	[ ] Fire watch req'd	[ ] NOMEX as required	[ ] Derail "B" locked?	[ ] Steam Suit	[ ] Lock, Tag, Try
[ ]	[ ]	[ ] Voltage Rated Gloves	[ ] Blue flag up	[ ]	[ ]

THE SUPERVISOR RECEIVING THIS PERMIT VERIFIES THAT ALL WORKERS: Supervisor's Initials RB Date: 05-23-12

	Yes	NA		Yes	NA
Are skilled in appropriate craft/trade	[✓]	[ ]	Know emergency evacuation, alarms and rally spots	[✓]	[ ]
Have been through General Safety Orientation	[✓]	[ ]	Know the procedure for completion of job SAFELY	[✓]	[ ]
Understand applicable HAZCOM requirements	[✓]	[ ]	Know Proper Incident/Injury Reporting Procedure	[✓]	[ ]
Have been told the HAZARDS of the job	[✓]	[ ]	Have inspected all tools/equipment/scaffolding	[✓]	[ ]
Know the location/use of safety shower/eye wash stations	[✓]	[ ]	Understand HOUSEKEEPING is part of the JOB	[✓]	[ ]
Know the location/use of Gaitronics system	[✓]	[ ]	Understand all "SPECIAL PERMIT" requirements	[ ]	[✓]

ENVIRONMENTAL CONCERNS:

[ ] Use drain pans	[ ] Have Soda Ash available	[ ] Use portable acid pump	Other:
[ ] Use a funnel and hose	[ ] Dike or dam ditch	[ ] Use portable tank on trailer	

APPROVED BY: (b) (7)(C), (b) (6) [redacted] DuPont Operator

Contractor Supervisor (b) (7)(C), (b) (6) [redacted]

Contract Coordinator

APPROVED BY: DuPont Supervisor as needed.

JOB COMPLETED ? YES NO Date:

EMISSION RATES FOR TAP/HAP & OTHER POLLUTANTS

AI ID: 67572 - E I Dupont de Nemours & Co Inc - Burnside Plant A H2SO4 Contact Facility
Activity Number: PER20060002
Permit Number: 0180-00007-V4
Air - Title V Regular Permit Major Mod

All phases

	Sulfuric acid		
Subject Item	Avg lb/hr	Max lb/hr	Tons/Year
EQT 019 07	0.04	0.04	0.16
EQT 020 09	0.04	0.04	0.18
EQT 022 12	15.25	15.25	0.08
EQT 023 14	< 0.001	< 0.001	0.001
EQT 024 15	< 0.001	< 0.001	0.001
EQT 025 16	< 0.001	< 0.001	0.001
EQT 027 18	0.15	0.15	0.02
EQT 030 01	14.38	16.3	63
FUG 002 13	0.12	0.12	0.52

Note: Emission rates in bold are from alternate scenarios and are not included in permitted totals

Permit Parameter Totals:

Sulfuric acid: 63.96 tons/yr

Emission Rates Notes:

Incident Number, Incident Status, Date/Time Incident Occurred	Incident Description	Incident Location	Lead Investigator, Follow-Up Status	Incident Source AI ID, Source Name, Source Municipality, Total # of Source Records	Incident Resolution
36799 Closed 09/20/2000 8:30 AM	s00-3750 Pipeline failure in the return line from Motiva to Dupont. DRL	Dupont 3460 Hwy. 44	(b) (7)(C), (b) (6) Closed	67572 E I Dupont Nemours & Co Inc Darrow 1	
43767 Closed 06/29/2001 12:00 AM	c01-2024 Dupont had an acid release that was not reported. Vehicles were sprayed with the acid - jmr	DuPont Burnside Facility	(b) (7)(C), Closed	67572 E I Dupont Nemours & Co Inc Darrow 1	
74068 Closed 10/04/2004 2:15 PM	s04-3844 An operator found pooling of sulfuric acid around the base of a tank. col	Dupont 3460 Hwy. 44 Darrow	(b) (7)(C), (b) (6) Closed	67572 E I Dupont DeNemours & Co Inc - Burnside Plant A H2SO4 Contact Facility Darrow	
77741 Closed 03/21/2005 5:30 PM	s05-0909 Shut down due to some process problems.. Still investigating incident, found a problem with a vessel	3460 Hwy 44 Darrow	(b) (7)(C), (b) Closed	67572 E I Dupont DeNemours & Co Inc - Burnside Plant A H2SO4 Contact Facility Darrow	
96158 Closed 05/12/2007 7:30 AM	s07-1549 Temporary release of sulfuric acid .. plant was in startup mode .. two blowers involved ... emergency shut	3460 Hwy 44	(b) (7)(C), (b) (6) Closed	67572 E I Dupont de Nemours & Co Inc - Burnside Plant A H2SO4 Contact Facility Darrow	
101816 Closed 12/19/2007 12:00 AM	s07-4395 During startup they had an upset condition where there is a leak in their economizer that would allowWater to go	Dupont Burnside Plant 3460 Hwy 44 Darrow	(b) (7)(C), (b) (6) Deferred until next inspection	67572 E I Dupont de Nemours & Co Inc - Burnside Plant A H2SO4 Contact Facility Darrow	
113225 Closed 03/09/2009 12:00 PM	s09-0674 Martin Transport--hose connection came loose during transfer....jd	Martin Transport Dupont Chemical, 3640 Hwy 44 Burnside	(b) (7)(C), (b) (6) Closed	67572 E I Dupont de Nemours & Co Inc - Burnside Plant A H2SO4 Contact Facility Darrow	Call placed to responsible party -- letter to be faxed to inspector
115748 Closed 06/15/2009 9:30 PM	s09-1858 DuPont--Drip discovered on barge unloading line for sulfuric acid...jd	DuPont Burnside Plant, 3460 Hwy 44 Darrow	(b) (7)(C), (b) (6) Closed	67572 E I Dupont de Nemours & Co Inc - Burnside Plant A H2SO4 Contact Facility Darrow	Facility submitted written report--incident closed.
126012 Closed 08/29/2010 3:14 AM	s10-3136 Dupont Burnside Plant release from a gasket leak on downstream flange of automatic valve...jd	Dupont Burnside Plant 3460 Highway 44 Darrow	(b) (7)(C), (b) (6)	67572 E I Dupont de Nemours & Co Inc - Burnside Plant A H2SO4 Contact Facility Darrow	
138126 Closed 03/20/2012 11:48 AM	c12-5807 complainant alleges that the facility has been experiencing ongoing releases since December	Dupont Burnside Facility Darrow	(b) (7)(C), (b) (6)	67572 E I Dupont de Nemours & Co Inc - Burnside Plant A H2SO4 Contact Facility Darrow	
140234 Closed 05/31/2012 1:00 PM	c12-10313 Facility has had a leak of sulfur trioxide from the cold interpass heat exchanger since December 2011	3460 Hwy 44 Darrow	(b) (7)(C), (b) (6) Closed	67572 E I Dupont de Nemours & Co Inc - Burnside Plant A H2SO4 Contact Facility Darrow	
142304 Closed 08/22/2012 1:00 PM	c12-14832 hydrocarbons and acid released from railcar to ground, then to drainage ditch	3640 Hwy 44 Darrow	(b) (7)(C), (b) (6) (b) Closed	67572 E I Dupont de Nemours & Co Inc - Burnside Plant A H2SO4 Contact Facility Darrow	Site visit

Incident Number, Incident Status, Date/Time Incident Occurred	Incident Description	Incident Location	Lead Investigator, Follow-Up Status	Incident Source AI ID, Source Name, Source Municipality, Total # of Source Records	Incident Resolution
144027 Closed 10/19/2012 1:00 PM	s12-18292 derailed tank cars carried sulfuric acid CML	outside of Dupont Plant Geismar	(b) (7)(C), (b) (6) Closed	67572 E I Dupont de Nemours & Co Inc - Burnside Plant A H2SO4 Contact Facility Darrow	
151079 Open 09/18/2013 2:00 AM	s13-32944 release of sulfuric acid	3460 Hwy 44 Darrow	(b) (7)(C), (b) (6)	67572 E I Dupont de Nemours & Co Inc - Burnside Plant A H2SO4 Contact Facility Darrow	
151987 Closed 10/31/2013 12:00 AM	c13-34732 (b) (7)(C), is a former employee of Dupont and has known about this leak since it's beginning in	Dupont Burnside, Hwy 44 River Road Darrow, LA	(b) (7)(C), (b) (6)	67572 E I Dupont de Nemours & Co Inc - Burnside Plant A H2SO4 Contact Facility Darrow	

DuPont Burnside
Title V and PSD Permit Modification
Fugitive Emission Calculations
Source I.D. 13

Pollutant	Total Emissions (lbs/hr)	Total Emissions (tons/yr)
Total VOC	0.19	0.83
Sulfuric Acid	0.12	0.52

DuPont Burnside
Title V and PSD Permit Modification
Fugitive Emission Calculations
Source I.D. 13

Component Type	Service	No. of Components	Emission Rate (lbs/hr/comp)	Stream Composition (wt%)[1]			Emissions (lb/hr)		
				VOC	SO_3	H_2SO_4	VOC	H_2SO_4[2]	H_2SO_4
Valves	Gas	8	1.38E-04	12.0			0.0011	0.0000	0.0000
		16	1.38E-04		9.0		0.0000	0.0027	0.0000
	Liquid	128	2.38E-04	12.0			0.0305	0.0000	0.0000
		180	negl.			93-98	0.0000	0.0000	negl.
		30	2.38E-04		100.0		0.0000	0.0088	0.0000
		61	negl.			100.0	0.0000	0.0000	negl.
Pumps	Liquid	9	9.13E-04	12.0			0.0082	0.0000	0.0000
		17	negl.			93-98	0.0000	0.0000	negl.
		2	9.13E-04		100.0		0.0000	0.0022	0.0000
Connectors	All	591	2.50E-04	12.0			0.1480	0.0000	0.0000
		106	2.50E-04		9.0		0.0000	0.0325	0.0000
		1230	negl.			93-98	0.0000	0.0000	negl.
		220	2.50E-04		100.0		0.0000	0.0675	0.0000
Open-ended valves		9	2.50E-04	12.0			0.0023	0.0000	0.0000
		10	2.50E-04		9.0		0.0000	0.0031	0.0000
		20	negl.			93-98	0.0000	0.0000	negl.
		8	2.50E-04		100.0		0.0000	0.0025	0.0000
		6	negl.			100.0	0.0000	0.0000	0.0000
				TOTAL (lbs/hr)			**0.19**	**0.12**	**0.00**
				TOTAL (tons/yr)			**0.83**	**0.52**	**0.00**

[1] Compositions of non-volatile components are not shown. In the calculation, stream compositions are normalized so that the volatile components add up to 100%.

[2] Emissions of SO_3 immediately react with water in the atmosphere to form H_2SO_4. Therefore the total emisions of SO_3 were multiplied by the ratio of the molecular weight of H_2SO_4 to the molecular weight of SO_3 (98.08/80.06).

DuPont Burnside
Title V and PSD Permit Modification
Fugitive Emission Calculations
Source I.D. 13

Component Type	Service	Emission Factor (lb/hr/source) Per Range[3]			Emission Rate[4]
		0 ppm	1-500 ppm[1]	>500 ppm[2]	lb/hr/component
Valves	Gas	1.45E-06	9.34E-04	1.28E-02	1.38E-04
Valves	Liquid	1.07E-06	2.00E-03	2.17E-02	2.38E-04
Pumps	Liquid	1.65E-05	7.00E-03	8.26E-02	9.13E-04
Connectors	-	1.34E-06	1.64E-03	2.33E-02	2.50E-04
Open-ended valves	-	1.34E-06	1.64E-03	2.33E-02	2.50E-04
All	Sulfuric Acid	-	-	-	negl.

[1] Emission factors for 1-500 ppmv based on SOCMI correlation with screening values of 500 ppmv.
[2] Emission factors for >500 ppmv based on SOCMI correlation with screening values of 10,000 ppmv.
[3] All emission factors based on SOCMI Leak Rate/Screening Value Correlations(Table 2-9), and Default Zero Values: SOCMI Process Units (Table 2-11), from Protocol for Equipment Leak Emission Estimates; EPA-453/R-95-017, November 1995.
[4] Percentages of leaking components based on:
98.0% non-leaking (0 range)
1.0% in 1-500 ppmv range
1.0% in >500 ppmv range.
[5] Sulfuric acid has a vapor pressure of less than 0.00003 psi at 95 F; therefore, emisisons of sulfuric acid are negligible.

C Shift

Created by: Jeffrey M Simoneaux on 03/18 at 08:19 PM

Night Shift	Operators on Duty	Working for?	Why?
Inside:	(b) (7)(C), (b)(6)		
Outside:		(b) (7)(C), (b) (6)	vac

Shift Log:

1. SO3 leak found above CIP escaping from continuously leaking spots , not being gathered by suction hoses. Same leak site as previously notified three weeks ago , seems to be travelling offsite will take a closer look at fence line . Mangement ((b) (7)(C), (b)(6) notified, left message, no answer. will try another method perhaps another supervisor . Since, management previously advised not to email being it created a legal document . Got in touch with (b) (7)(C), (b) who advised to contact (b) (7) to get some guys to come look at the leak as long as we had some doubt as to whether it was going off site . (b) (7)(C), called back and we updated her. Will call back if we can not stop leak .

EXHIBIT
tabbies
G

Burnside Initial Incident Report

(for internal use only)

Incident Information

Date reported: 8.5.11

Title: Converter Gas Leak

Incident date: 8.5.11 Incident time: 0530

Area: Converter

Brief Description of known facts: Gas Leak @ converter 1st pass exit due to vacuum hose melted

Immediate action taken: Notified supervision + monitored area

Other action recommended: contacted contractor to replace vacuum hose. Decreased burden & bleed two vacuum hoses to reduce heat load (from machine one hose)

Environmental deviation(Title V, other): None

Chemical released: SO_2

Report Completed by: (b) (7)(C), (b) (6) [redacted]

Note: Deliver copy of form to manager upon completion

Burnside Initial Incident Report

(for internal use only)

Incident Information

Date reported:
6-16-11

Title:
BASF Spent sulfuric acid reaction with 99% sulfuric acid

Incident date: 6-15-11 **Incident time:** 2300hrs

Area:
#6 Railcar Spot

Brief Description of known facts:
Railcar DUPX14786 containing BASF Spent sulfuric acid was scheduled to be shipped if it's heel would be 9" or least. After unloading the railcar the ROB was 34" Instruction was written if the heel was over 9" to load it with 99% sulfuric acid. This procedure was successful on diluting a prior BASF spent railcar. While loading the railcar a reaction occurred causing the railcar to fume and bubble out the dome. The railcar was loaded to a total outage of 36"

Immediate action taken: Stopped loading operation

Other action recommended: Stay clear of the area until reaction stopped.

Environmental deviation(Title V, other):
less than 5 gallons outside of the spill pan

Chemical released:
Spent acid & surfacant (Rhodical) on to spill pan

Report Completed by: (b) (7)(C), (b) (6) [redacted]

Note: Deliver copy of form to manager upon completion

Burnside Initial Incident Report

(for internal use only)

Incident Information

Date reported: 6/2/11

Title: Piping leak on SO_3 system

Incident date: 6/2/11 **Incident time:** 11:30 / 11:45 am approx.

Area: SO_3 Area / Reboiler level

Brief Description of known facts: TWO KBR contractors were working in the area and noticed ~~a vaporous~~ what appeared to be fumes/vapors from SO_3 piping. They immediately notified the control Room of the possible leak. The field operator verified and the shift notified supervision.

Immediate action taken: Shutdown the SO_3 production, and begin taking the system to a non-fuming state. Once complete, maintenace will change the piping.

Other action recommended: None

Environmental deviation(Title V, other):

Chemical released: SO_3 fumes (SO_2 mist)

Report Completed by: (b) (7)(C), (b) (6) [redacted]

Note: Deliver copy of form to manager upon completion

Burnside Initial Incident Report

(for internal use only)

Incident Information

Date reported: 5/17/11

Title: SO_2 Inlet Analyzer

Incident date: 5/14/11 **Incident time:** Approx: 2 - 3pm

Area: Converter

Brief Description of known facts:
The inlet analyzer was not operating correctly. ~~Instead~~ The emissions of SO_2 alarmed. The three hour average exceeded the permit ~~alert~~ on the DCS. The analyzer was then set to a manual entry until fixed.

Immediate action taken: Supervision contacted & E/I ~~was~~ to work on issue.

Other action recommended: Communicating to all operators of ~~the~~ putting the SO_2 Inlet Entry In manual/Enable in a timely manner to mitigate a DCS 3 hour ~~excursion~~ deviation CM 7

Environmental deviation(Title V, other): None
~~SO_2 Exc~~

Chemical released: ——

Report Completed by: (b) (7)(C), (b) (6) [redacted]

Note: Deliver copy of form to manager upon completion

Burnside Initial Incident Report

(for internal use only)

Incident Information

Date reported: 5/17/11

Title: Opacity of Stack

Incident date: 5/17/11 **Incident time:** 11:15 am

Area: Stack

Brief Description of known facts: An opacity reading/measurement was performed, due to a visible stack. Operator informed supervision and worked with the board operator to make adjustments.

Immediate action taken: Made adjustments ~~to~~ with process ~~to reacteate~~

Other action recommended: Performed stack reading the next morning

Environmental deviation(Title V, other): Title V air

Chemical released:

SO_2

Report Completed by: (b) (7)(C), (b) (6) [redacted]

Note: Deliver copy of form to manager upon completion

Burnside Initial Incident Report

(for internal use only)

Incident Information

Date reported: 5/15/2011

Title: IPAT 9B (CIL) cooler leak

Incident date: 5/15/2011 **Incident time:** 5:30 pm Approx

Area: IPAT 9B (CIL) cooler

Brief Description of known facts: AT 5:23 pm, the inside operator got a low PH alarm on the "301" pH (exit CIL cooler water) followed by a drop in the "001" pH. The outside operator went out to check the probe. The probe was visually inspected, and a sample was caught to check the pH, which was 5.03. The Dry Tower CIL cooler was checked and reading normal of approx. 7.4. The IPAT CIL cooler ~~was~~ sample was caught and reading 2.2, The leak was found. and supervision was contacted [redacted] was notified and said if the pH maintained le on the 001 outfall (River water return pit) it was okay.

Immediate action taken: Contacted supervision

Other action recommended: Begin to shut the spent side down. Supervision decided to shut the contact down for lockout & repair

Environmental deviation(Title V, other): None

Chemical released: weak acid

Report Completed by: [redacted]

Note: Deliver copy of form to manager upon completion

UPTIME

INCIDENT

At 5:23 inside operator got a low PH alarm on 301 PH (exit CIL cooler water) followed by a drop in 001 PH. Immediately the outside operator went out to check the probe. After visually inspecting probe outside operator immediately caught a sample of water next to probe and ran the ph which was 5.03. Then the outside operator immediately went to the Dry Tower CIL cooler and unplugged the exit water drain and caught a sample. The ph of the Dry Tower Cooler exit water was normal at about 7.4. Then the outside operator caught a sample of the IPAT CIL cooler exit water which was running at 2.2 ph. Since this clearly indicated where the acid leak was we then immediately called for [redacted] and got no answer could not leave a message. We then immediately notified [redacted] who said as long as we could maintain 6 ph on the 001 (River water return pit) he was okay with it.

We were unable to locate [redacted] number so we then called [redacted] who said he would get some more opinions and get back to us. Shortly after we hung up with [redacted] we went back out and found that the caustic addition to 001 (river water pit) was not functioning and in fact we hadn't gotten any caustic to the pit. [redacted] called [redacted] and [redacted] called us and suggested we start cutting spent off and burning out which we were already in the process of doing once we found out that the caustic addition was frozen. At 17:50 all spent guns were off. [redacted] called to check on plant. We burned spent furnace out for 30 minutes. At 18:20 spent burners were shut off. At 19:15 we shut down sulfur and by this time [redacted] and other maintenance personnel were on site. River water pumps were shutdown because low PH water was still being pumped into condenser. Later everything was locked out for maintenance on IPAT Cooler.